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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/583,723

06/20/2006

Kai Schumacher

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06/26/2009

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1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

ABU ALI, SHUANGYI

ART UNIT

PAPER NUMBER

1793

NOTIFICATION DATE

DELIVERY MODE

06/26/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/583,723 | Applicant(s) SCHUMACHER ET AL. | |
| | Examiner SHUANGYI ABU ALI | Art Unit 1793 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 12-18 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
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| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>06/20/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of Group I, claims 1-11 in the reply filed on 03/30/2009 is acknowledged. The traversal is on the ground(s) that it is not a burden to examine all the claims. This is not found persuasive because applicant presents no clear arguments as to why a restriction under the PCT rule is improper. The Applicant fail to present the argument why U. S. patent No. 6,193,98 fail to be read on claim 1.

The requirement is still deemed proper, and is therefore made FINAL. Claims 12-18 are withdrawn from consideration.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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Claim 1, 3 and 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,193795 to Margiello et al.

Regarding claims 1, 5-7, Margiello et al. disclose flame produced aluminum oxide, which has the following property:

| | |
|--|---------|
| BET -Surface Area m ² /g (Micromeritics @ 2300) | 80-120 |
| Average Particle Size nm | 10-15 |
| Bulk Density g/l (DIN 53194) | 40-120 |
| Loss of Drying % (DIN 55921) | 1-5 |
| Loss of Ignition % (DIN 55921) | 1-3 |
| pH (DIN 53280) | 4.5-5.5 |
| DBP Absorption g/100 g (DIN 53601) | 150-200 |

Regarding the crystalline structure, since the metal oxide composite is made by a flame hydrolysis process as set forth in applicant claim 1, the surface area and the DBP value of the aluminum particle is in the range of the instant application claimed, It would have been obvious to one of ordinary skill in the art at the time of invention by applicant to reasonably expect that the metal oxide of Margiello et al. would necessarily embrace such properties of crystalline primary particles. The reference differs from Applicant's recitations of claims by not disclosing identical ranges(the surface are and DBP value). However, the reference discloses "overlapping" ranges, and overlapping ranges have been held to establish prima facie obviousness (MPEP 2144.05).

. Regarding claim 3, since the reference is silent about the content of the chloride, it is reasonably expected that the chloride content is zero and the claim limitation, which is inclusive of zero, is met

Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,743,269 to Meyer et al. , in view of U.S. Patent No. 6,063,354 to Mangold et al. (abstract, col. 1, lines 30-65)

Regarding claim 1-11, Meyer et al. disclose a composition, which is aluminum oxide, can be used in polishing process. But they are silent that the aluminum oxide has the property as applicant set forth in the instant application,

Mangold et al. disclose a metal oxide, which can be used in the polishing process and a process of making the metal oxide by flame hydrolysis process by using a known burner. The process is carried out by control the hydrogen ratio, gamma and the oxygen ratio, lambda. The hydrogen ratio is defined as the ratio of hydrogen fed into the reactor plus hydrogen from the raw material to the stoichiometrically required hydrogen. Lambda is the ratio of oxygen fed in to the stoichiometrically required oxygen. Secondary air is also fed into the reactor to avoid the formation of explosive mixture. The Lambda and gamma value is less than 1, which is the close range of the instant application, which recites that the lambda and gamma value can be 1. Close ranges have been held to establish prima facie obviousness.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention by applicant to apply Mangold composition to the polishing agent of Mayer et al., motivated by the fact that Mangold disclose that the metal oxide of their invention has improved polishing performance (col. 1, lines 30-34). Since the metal oxide composite is made by a process substantially similar to the process for making

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metal oxide in the instant application. It is reasonably expected that the metal oxide of combined teaching of Meyer et al. and Mangold is similar to that of the instant application.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SHUANGYI ABU ALI whose telephone number is (571)272-6453. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.A. LORENZO/

Supervisory Patent Examiner, Art Unit 1793

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